

What is claimed is:

1. A method for screening a compound for use in the treatment of, or in the identification of a clinical or biological target for, a disease, said method comprising determining the ability of said compound to influence interactions involving alpha-methylacyl-CoA racemase.
2. A method according to Claim 1 wherein said interactions involving alpha-methylacyl-CoA racemase comprise interaction of alpha-methylacyl-CoA racemase with a ligand for alpha-methylacyl-CoA racemase.
3. A method according to Claim 1 wherein said interactions involving alpha-methylacyl-CoA racemase comprise an increase or decrease in an amount of alpha-methylacyl-CoA racemase.
4. A method according to Claim 1 wherein said interactions involving alpha-methylacyl-CoA racemase comprise over-expression or under-expression of alpha-methylacyl-CoA racemase as a result of such disease.
5. A method according to Claim 1 wherein said compound is selected from the group consisting of small organic compounds, proteins, carbohydrates and polynucleotides.
6. A method according to Claim 1 wherein said ligand is a CoA thioester of an alpha-methyl acyl fatty acid where the alpha carbon is an R-stereoisomer.
7. A method according to Claim 1 wherein said determining is carried out *in vivo*.
8. A method according to Claim 1 wherein said determining is carried out *in vitro*.

9. A method according to Claim 1 wherein said method comprises determining the amount or activity of alpha-methylacyl-CoA racemase resulting from the ability of said compound to influence the interaction of alpha-methyacyl-CoA racemase with a ligand for alpha-methylacyl-CoA racemase and relating the amount or activity thereof to the effectiveness of said compound in the treatment of, or in the identification of a clinical or biological target for, a disease.

10. A method according to Claim 9 wherein said amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of said ligand.

11. A method according to Claim 1 wherein said method comprises determining the level of expression of alpha-methylacyl-CoA racemase resulting from the ability of said compound to influence the expression of alpha-methyacyl-CoA racemase and relating the level thereof to the effectiveness of said compound in the treatment of, or in the identification of a clinical or biological target for, a disease.

12. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:

- (a) forming an analysis system comprising said compound and alpha-methylacyl-CoA racemase,
- (b) incubating said analysis system under conditions for an interaction involving said alpha-methylacyl-CoA racemase to occur, and
- (c) measuring the amount or activity of alpha-methylacyl-CoA racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

13. A method according to Claim 12 wherein said analysis system comprises a host.

14. A method according to Claim 13 wherein said host is selected from the group consisting of a mammal, a mammalian cell line and mammalian tissue.
- 5 15. A method according to Claim 12 wherein said analysis system comprises a ligand for alpha-methylacyl-CoA racemase and said system is incubated under conditions for interactions involving said ligand and said alpha-methylacyl-CoA racemase to occur.
- 10 16. A method according to Claim 15 wherein said ligand is a CoA thioester of an alpha-methyl acyl fatty acid where the alpha carbon is an R-stereoisomer.
- 15 17. A method according to Claim 16 wherein said ligand is selected from the group consisting of branched chain fatty acids and C27 bile acid intermediate.
- 20 18. A method according to Claim 16 wherein said fatty acid is phytanic acid, pristanic acid or trimethylundecanoic acid.
- 25 19. A method according to Claim 15 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of said ligand.
- 30 20. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:
- (a) forming an analysis system comprising said compound, alpha-methylacyl-CoA racemase and a ligand for alpha-methylacyl-CoA racemase,
 - (c) incubating said analysis system under conditions for an interaction between said ligand and said alpha-methylacyl-CoA racemase to occur, and
 - (c) measuring the amount or activity of alpha-methylacyl-CoA racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

21. A method according to Claim 20 wherein the activity of said alpha-methylacyl-CoA racemase is measured.

22. A method according to Claim 21 wherein the activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of said
5 ligand.

23. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:

10 (a) forming an analysis system comprising said compound and a host that expresses alpha-methylacyl-CoA racemase,

(d) incubating said analysis system under conditions for an interaction involving said alpha-methylacyl-CoA racemase to occur, and

(c) measuring the amount or activity of alpha-methylacyl-CoA
15 racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

24. A method according to Claim 23 wherein said host is selected from the group consisting of a mammal, a mammalian cell line and mammalian
20 tissue.

25. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of alpha-methylacyl-CoA racemase mRNA or protein.

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26. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of polyA plus RNA.

30 27. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured using an antibody specific for alpha-methylacyl-CoA racemase.

28. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by cDNA amplification.

5 29. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of epimerase activity.

10 30. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 1.

15 31. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 12.

32. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 20.

20 33. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 23.

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